

## A new species of *Lyria* (Gastropoda: Volutidae) from the southwestern coast of Madagascar

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**ABSTRACT.** A new endemic species of Volutidae, *Lyria* (*Indolyria*) *michardi* sp. nov. is described from the south of Andavadoaka, southwest Madagascar. This new species is close to *Lyria* (*Indolyria*) *tulearensis* Cosel & Blöcher, 1977 and to *Lyria* (*Indolyria*) *delessertiana* (Petit de la Saussaye, 1842), thus forming a distinct group.

### INTRODUCTION

For the last ten years, development of local fishing and expansion of shell collecting in Madagascar have led to the discovery of *Lyria* with limited endemism, living in shallow water along the western and southern coasts.

These *Lyria* species can be divided into two groups: the southern group characterized by a large purple protoconch, which includes *Lyria* (*Indolyria*) *patbaili* Bouchet, 1999, *Lyria* (*Indolyria*) *brianoi* Poppe, 1999, *Lyria* (*Indolyria*) *pauljohinsoni* Poppe & Terryn, 2002, and *Lyria* (*Indolyria*) *solangae* Bozetti, 2009; the western group, which differs by having a small brown protoconch and dominant orange coloration of the body whorl, includes *Lyria* (*Indolyria*) *delessertiana* (Petit de la Saussaye, 1842), *Lyria* (*Indolyria*) *tulearensis* Cosel & Blöcher, 1977 and the here described *Lyria* (*Indolyria*) *michardi* sp. nov.

However, certain populations of these two groups show some common characters such as the black tinged siphonal notch, showing a close relationship.

### Abbreviation.

MNHN: Muséum national d'Histoire naturelle, Paris, France.

### SYSTEMATICS

Class **GASTROPODA**

Superfamily **VOLUTOIDEA**

Family **VOLUTIDAE** Rafinesque, 1815

Subfamily **VOLUTINAE** Rafinesque, 1815

Tribe **Lyriini** Pilsbry & Olsson, 1954

Genus *Lyria* Gray, 1847

Subgenus *Indolyria*, Bail & Poppe, 2001

Type species: *Lyria lyraeformis* (Swainson, 1821)

*Lyria* (*Indolyria*) *michardi* sp. nov.

Figs 1-10

**Type material.** Holotype, MNHN 21942. Length 52.5 mm; width 23.4 mm (Figs. 1-3).

Paratype I in J. F. Michard collection: 51.9 mm x 23.2 mm (Figs. 4-5).

Two specimens from Manfred Blöcher collection: Paratype II: 56.7 mm x 27.1 mm (Figs. 6-7), Paratype III: 47.5 mm x 22.4 mm (Figs. 8-9).

**Type locality.** Vicinity of Andavadoaka coast, southwest Madagascar.

**Range.** At present known only from the type locality.

**Habitat.** The actual habitat is still unknown. Probably in shallow water on sand and eelgrass like its two relatives.

**Description.** Shell ovate fusiform, solid with silky surface. Adult size 47-57 mm. Protoconch tumid, paucispiral of 1.5 smooth convex whorls coiled on axis of the shell (Fig. 10). Protoconch/teleoconch transition marked by progressive occurrence of the first axial costa. Spire moderately high. Teleoconch of 5.25 evenly convex whorls without subsutural depression. Suture impressed. Axial sculpture of strong orthocline axial ribs, slightly sigmoid in some specimens, extending all over the whorls, numbering from 20-23 on penultimate and from 25-26 on body whorl. Spiral close-set sculpture well marked, furrowing whole rib interspaces, notching crest of ribs on subsutural and anterior zones and forming 6-7 beaded cords on base of last whorl, giving tessellated surface.

Aperture high, narrow, forming 0.58 of total shell length. Outer lip simple, thickened externally forming labral varix which contains 7 or 8 slender axial riblets. Columella callused, slightly arched, bearing 14 or 15 close-set plaits becoming gradually thicker towards anterior with ultimate 3 strongest plaits. Siphonal canal short and narrow, tinged with black. Background color light beige with scattered square brown blotches on spire. On body whorl of live-taken specimens, deep chestnut-brown coloration in interspaces of axial ribs which appear paler, with lighter spiral bands on middle and basal part of body whorl. Pattern of 10-12 pencil-thin spiral brown lines, with intercalation of faint lines on labral varix. Protoconch beige and aperture white.

Holotype and other dead-collected specimens show a paler and more uniform beige-orange coloration.

**Animal.** Not available for study.

**Discussion.** Pending future more accurate information, this small species seems parapatric with *L. tulearensis*. Nevertheless it is very distinctive and its general appearance is closer to *L. delessertiana* than to the former.

*Lyria delessertiana* has a shorter spire (average 0.37 of the total length), whorls slightly shouldered forming a shallow concave subsutural zone and the anterior part of the body whorl more tapered. Axial ribs are more sigmoid. Spiral sculpture is often obsolete or very faint and reduced to spiral cords on the anterior part. Its pattern of spiral reddish lines is very attenuated, well marked only on the labial varix. Siphonal notch does not have black marks (Figs. 11-12).

Classically, its range is restricted to two beaches around Nosy-Bé; almost 1000 km gap separates its range from *L. michardi*. However, unconfirmed rumors have reported its presence north of Tuléar.

*Lyria michardi* shares the presence of black stains on the siphonal notch with the two following species:

*Lyria tulearensis* is close to *L. delessertiana* but differs by a stockier shape, less numerous (17-20) and heavier axial ribs, with very attenuated spiral sculpture. Its pattern is formed by black spiral lines, very pronounced on the external edge of the body whorl, the siphonal band and edge of the siphonal notch well marked with black stains. The spire is always without brown blotches (Figs. 13-14). Its range was formerly restricted to Andavadoaka. A northern population of this species has been recently discovered in the Barren Islands (Jean-Paul Duboc 2007, pers. com.), which is a considerable extension of its range.

Specimens of *L. (Indolyria) solangae* Bozetti, 2009, a population closely related to *L. (L.) pathaili* Bouchet, 1999, bear plain light brown coloration overlain by light spiral lines with narrow axial ribs and rather prominent spiral sculpture. Background color, pattern, elongate shape with high spire and the location of columellar plaits, 6 evenly well marked adapically followed by 6-8 faint lirae, cannot be confused (Figs. 15-16).

**Remarks.** The existence of this species had been suspected years ago by Manfred Blöcher, based upon two unclassifiable very worn specimens with vague data giving SW coast of Madagascar. He gave the shells to the present author for further study. Characters of those shells fit perfectly with *L. michardi*.

Poppe & Goto (1992: 66) noted the possible occurrence of a third population belonging to the *delessertiana/tulearensis* complex, but without description nor illustration.

Recently rediscovered by a local fisherman, this species seems to have a very restricted habitat, limited somewhere in the southern coast of Tuléar, and was never distinguished until now despite surrounding explorations.

**Etymology.** This species is named in honor of Mr. Jean-François Michard, a keen conchologist who brought this new species to our attention and entrusted these specimens for study.

## REFERENCE

- Poppe G. T. & Goto, Y. 1992. *Volutes*. Informatore Piceno Ed. Ancona, 348 pp.

## Figures 1-16

1-10. *Lyria (Indolyria) michardi* sp. nov.

1-3. Holotype 52.5 x 23.4 mm, MNHN21942; 4-5. Paratype I, 51.9 x 23.2 mm, J. F. Michard collection; 6-7. Paratype II, 56.7 x 27.1 mm; 8-9. Paratype III, 47.5 x 22.4 mm; 10. Protoconch of the holotype.

11-12. *Lyria delessertiana* 53.5 mm, Pointe Ankify, NW Madagascar.

13-14. *Lyria tulearensis* 56.0 mm, Andavadoaka, SW Madagascar.

15-16. *Lyria solangae* 69.1 mm, Sainte-Luce, SE Madagascar.

